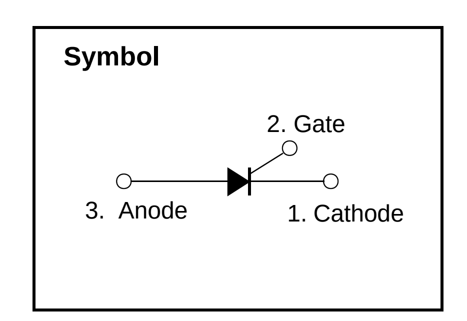


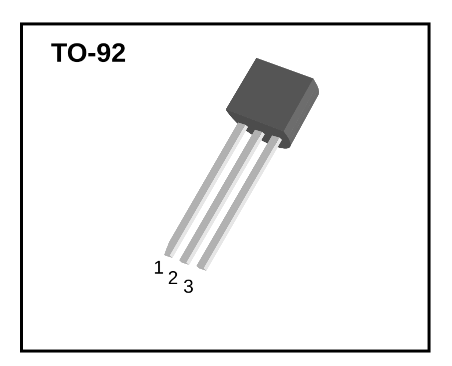
PCR606J

Sensitive Gate
Silicon Controlled Rectifiers



Features

- Repetitive Peak Off-State Voltage : 600V
- R.M.S On-State Current ($I_{T(RMS)}$= 0.6 A)
- Low On-State Voltage (1.2V(Typ.)@ I_{TM})



General Description

Sensitive triggering SCR is suitable for the application where gate current limited such as small motor control, gate driver for large SCR, sensing and detecting circuits.

Absolute Maximum Ratings (T_J = 25°C unless otherwise specified)

Symbol	Parameter	Condition	Ratings	Units
V_{DRM}	Repetitive Peak Off-State Voltage		600	V
$I_{T(AV)}$	Average On-State Current	Half Sine Wave : T_C = 74 °C	0.5	A
$I_{T(RMS)}$	R.M.S On-State Current	All Conduction Angle	0.6	A
I_{TSM}	Surge On-State Current	1/2 Cycle, 60Hz, Sine Wave Non-Repetitive	6	A
I^2t	I^2t for Fusing	t = 8.3ms	0.415	A^2s
P_{GM}	Forward Peak Gate Power Dissipation	T_A =25°C, Pulse Width ≤ 1.0μs	2	W
$P_{G(AV)}$	Forward Average Gate Power Dissipation	T_A =25°C, t = 8.3ms	0.1	W
I_{FGM}	Forward Peak Gate Current		1	A
V_{RGM}	Reverse Peak Gate Voltage		5.0	V
T_J	Operating Junction Temperature		- 40 ~ 125	°C
T_{STG}	Storage Temperature		- 40 ~ 150	°C[P



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Electrical Characteristics (T_C = 25 °C unless otherwise noted)

Symbol	Items	Conditions	Ratings			Unit
			Min.	Typ.	Max.	
I_{DRM}	Repetitive Peak Off-State Current	$V_{AK} = V_{DRM}$ or V_{RRM} ; R_{GK} = 1000 Ω T_C = 25 °C T_C = 125 °C	— —	— —	10 200	μA
V_{TM}	Peak On-State Voltage (1)	(I_{TM} = 1 A, Peak)	—	1.2	1.7	V
I_{GT}	Gate Trigger Current (2)	V_{AK} = 6 V, R_L=100 Ω T_C = 25 °C T_C = - 40 °C	— —	— —	200 500	μA
V_{GT}	Gate Trigger Voltage (2)	V_D = 7 V, R_L=100 Ω T_C = 25 °C T_C = - 40 °C	— —	— —	0.8 1.2	V
V_{GD}	Non-Trigger Gate Voltage (1)	V_{AK} = 12 V, R_L=100 Ω T_C = 125 °C	0.2	—	—	V
dv/dt	Critical Rate of Rise Off-State Voltage	V_D = 0.67 V_{DRM} , Exponential waveform, R_{GK} = 1000Ω T_J=125℃	500	800	—	V/μs
di/dt	Critical Rate of Rise On-State Current	I_{TM} = 2A ; I_g = 10mA	—	—	50	A/μs
I_H	Holding Current	V_{AK} = 12 V, Gate Open Initiating Curent = 50mA T_C = 25 °C T_C = - 40 °C	— —	2 —	5.0 10	mA
$R_{th(j-c)}$	Thermal Impedance	Junction to case	—	—	60	°C/W
$R_{th(j-a)}$	Thermal Impedance	Junction to Ambient	—	—	150	°C/W

※ **Notes :**

1. Pulse Width ≤ 1.0 ms , Duty cycle ≤ 1%
2. Does not include R_{GK} in measurement.

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Fig 1. Gate Characteristics

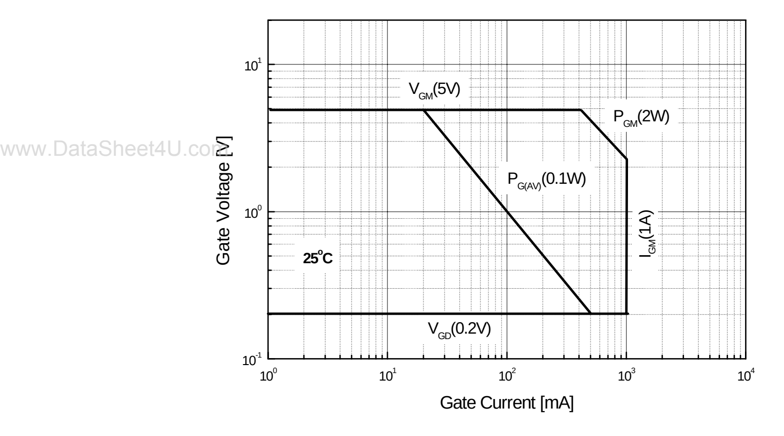


Fig 2. Maximum Case Temperature

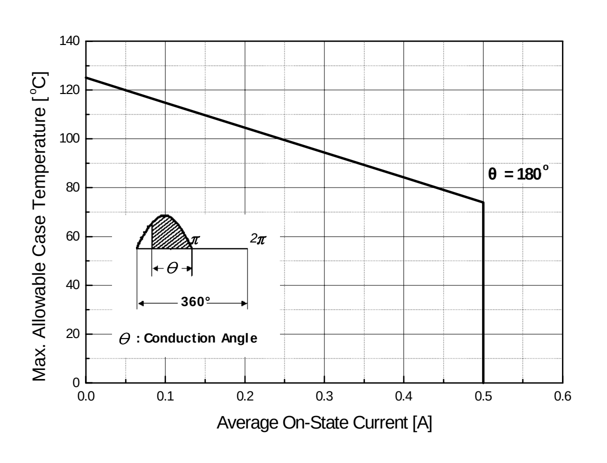


Fig 3. Typical Forward Voltage

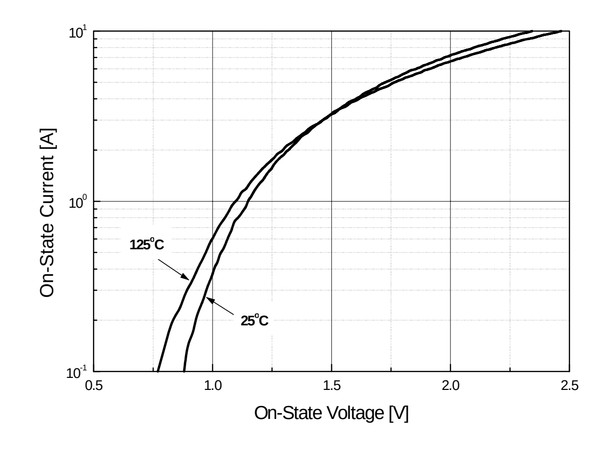


Fig 4. Thermal Response

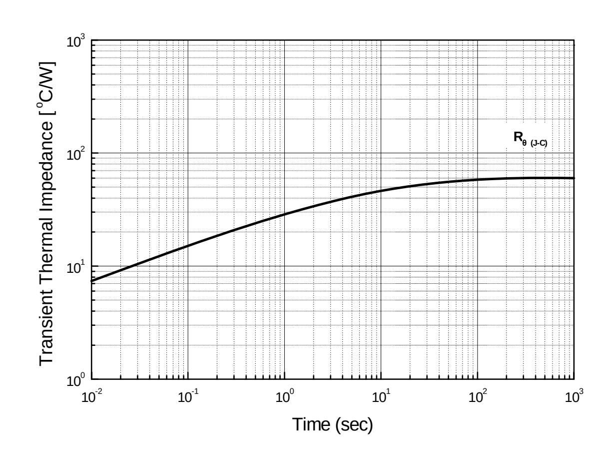


Fig 5. Typical Gate Trigger Voltage vs. Junction Temperature

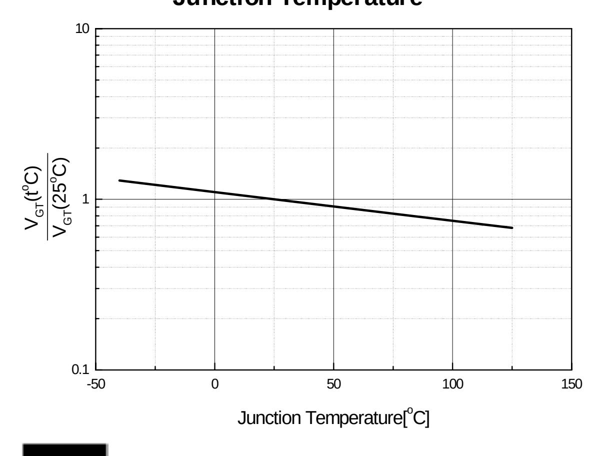
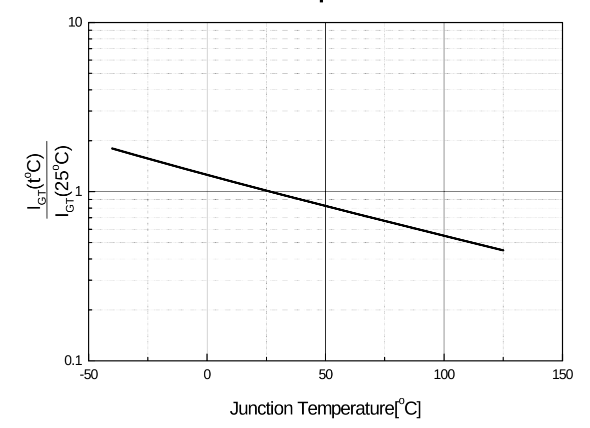


Fig 6. Typical Gate Trigger Current vs. Junction Temperature



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Fig 7. Typical Holding Current

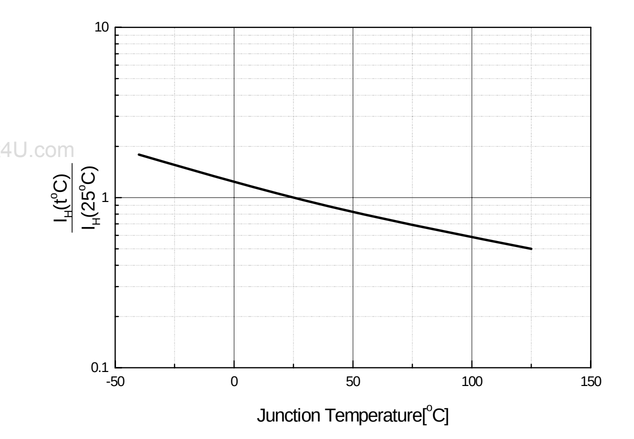
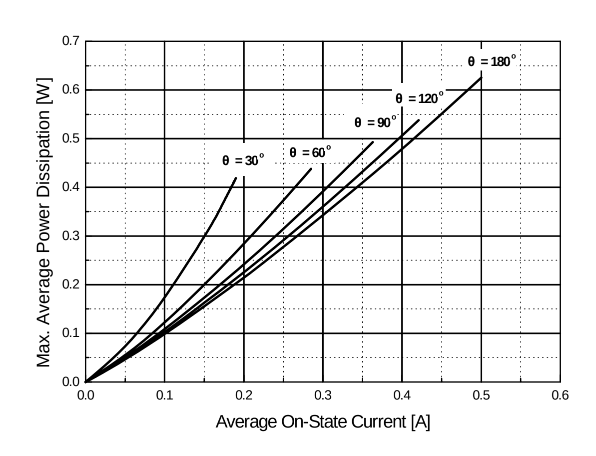
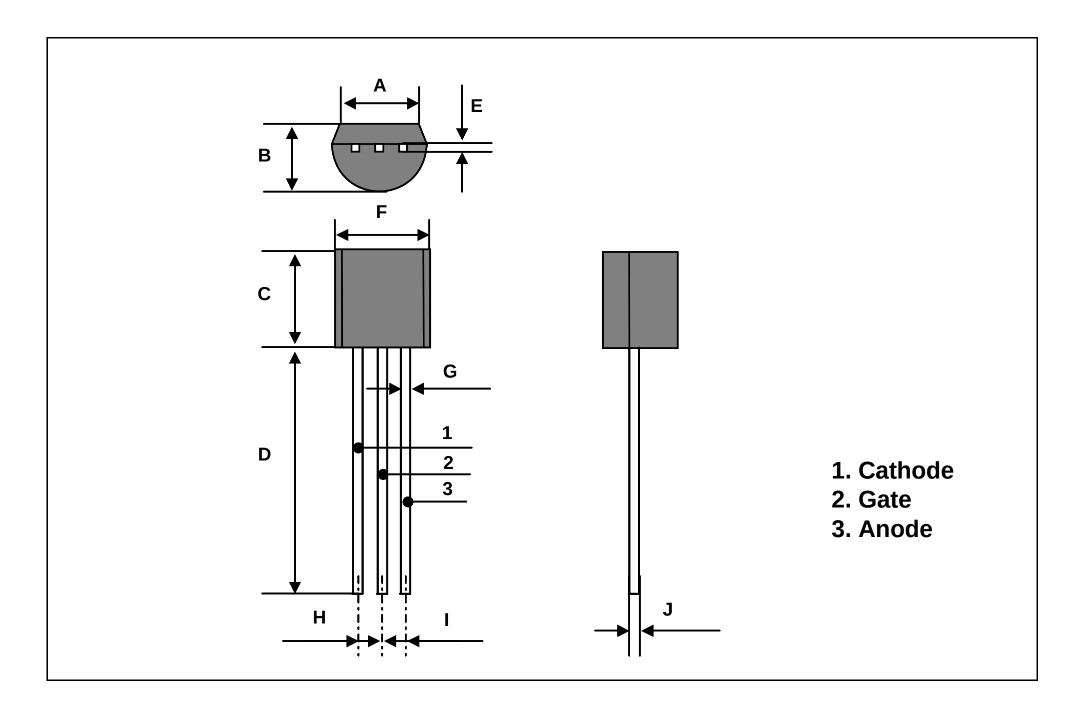


Fig 8. Power Dissipation



TO-92 Package Dimension

Dim.	mm			Inch		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A		4.2			0.165	
B			3.7			0.146
C	4.43		4.83	0.174		0.190
D	14.07		14.87	0.554		0.585
E			0.4			0.016
F	4.43		4.83	0.174		0.190
G			0.45			0.017
H		2.54			0.100	
I		2.54			0.100	
J	0.33		0.48	0.013		0.019



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